

REMARKS

Claims 1-4 are pending in the application, claim 1 has been amended and claim 5 has been canceled. The examiner has withdrawn claims 6-8 from consideration as drawn to a non-elected species of the invention.

Claim 1 has been rejected under 35 USC §112, second paragraph, as indefinite. Applicants wish to thank the examiner for the suggestions in the remarks of the office action dated June 19, 2002. It is respectfully requested that the rejection be removed as the amended claims now meet the formal requirements of 35 USC §112.

Applicants are in the process of obtaining the translations of foreign priority documents DE 19815078.4, 19816414.9 and 19836408.3 as requested by the examiner.

The overnight package containing these documents did not arrive according to its scheduled delivery and applicants are in the process of tracking the shipment.

These translations will be provided to the examiner as soon as they are available.

1. Response to Rejection under 35 USC §102

The examiner has rejected claims 1-5 under 35 USC §102(a) as anticipated by Boymond et al. (Angew. Chem. Int. Ed. 1998, 37 (12), 1701-1703). However, the reference cited does not support a *prima facie* case of anticipation under 35 USC §102(a) as the reference is not "by others." Under MPEP 2132.01, a *prima facie* case is made out under 35 USC 102(a) if, within 1 year of the filing date, the invention, or an obvious variant thereof, is described in a "printed publication" whose authorship differs in any way from the inventive entity. *In re Katz*, 687 F.2d 450, 215 USPQ 14 (CCPA 1982) (emphasis added).

The article cited by the examiner names Laure Boymond, Mario Rottländer, Gérard Cahiez and Paul Knochel. Similarly, the Declaration, Power of Attorney names Laure Boymond, Mario Rottländer, Gérard Cahiez and Paul Knochel as inventors of the instant subject matter. Therefore, the authorship of the reference does not differ from the inventive entity in any way. As a result applicants respectfully request the rejection be withdrawn.

Claims 1-4 have been rejected under 35 USC §102(b) as anticipated by Ohno (US 5,420,310). However, under the amended claims, Ohno does not disclose each and every element of the claim. Under MPEP §2131, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. Of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Therefore, applicants respectfully request the rejection be withdrawn and the claims be passed to issue.

2. Response to Rejection under 35 USC §103

The examiner has rejected under 35 USC 103(a) as unpatentable over Ohno in view of Minoura (J. Polym. Sci., Part A-1, 1969, 7(11), 3245-55) and Capporiccio (US 4,354,030).

The examiner argues that Ohno teaches the magnesium-halogen exchange reaction as the applicant except that Ohno lacks the teaching of carrying out the magnesium-halogen exchange reaction on a solid support. The examiner goes on to state that the solid support step is disclosed by the Minoura reference and that Caporiccio teaches the synthetic usefulness of performing a magnesium-halogen exchange reaction

on a solid support using copolymers of fluorosulphonyl olefins. (Page 8 of the Office action dated June 19, 2002).

The examiner suggests that it would be *prima facie* obvious to one of ordinary skill in the art to carry out the magnesium-halogen exchange reaction of Ohno on the polyvinyl chloride solid support of Minoura because Caporiccio suggests that higher yields may be obtained. However, three requirements must be fulfilled in order for a *prima facie* case of obviousness to be satisfied. First, there must be some suggestion or motivation in the references themselves or available to one of ordinary skill in the art to modify the reference or to combine reference teachings.¹ Second, there must be a reasonable expectation of success. Third, the prior art references combined must teach or suggest all the claim limitations. MPEP §2143.

The claimed invention must be considered as a whole, the references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination, the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention and reasonable expectation of success is the standard with which obviousness is determined. MPEP §2141, citing *Hodosh v. Block Drug Co., Inc.* 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).

With respect to the instant invention, the examiner has failed to establish a *prima*

¹There are three possible sources for motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-1458 (Fed. Cir. 1988).

facie case of obviousness. The references cited by the examiner do not provide a suggestion or motivation to combine the teachings to produce the instant invention. As noted above, the examiner suggests that one of ordinary skill in the art would have been motivated to produce the instant invention because Caporiccio suggests that higher yields may be obtained. However, this citation that higher yields may be obtained refers to a process that does not produce compounds of the formula I, nor does it involve compounds of the formula II. Furthermore, a single line in a reference should not be taken out of context and relied upon with the benefit of hindsight to show obviousness. *Bausch & Lomb, Inc. V. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 230 USPQ 416 (Fed. Cir. 1986). Thus, the examiner seems to suggest that it would have been "obvious to try" the process of the instant invention as a result of the references cited. However this is not the standard of invention under 35 USC §103. "Obvious to try" is not a valid test of patentability. *In re Dow Chemical Company*, 5 USPQ2d 1529, 1532 (Fed. Cir. 1988).

Second, the examiner has failed to show that the applicants had an expectation of success. The examiner argues that applicants had an expectation of success of the claimed invention as "both Minoura et al and Caporiccio et al teach that magnesium-halogen exchange reactions can occur for reactions involving alkyl halides on a solid support." (Paper number 10, page 9). However, these references do not suggest the success of the instant invention as they pertain to processes utilizing poly vinyl chloride (Minoura) and fluorosulphonyl olefins (Caporiccio). However, neither of these processes utilize the compound of the formula I in the instant invention and therefore these references

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do not suggest the success of the instant invention.

In effect the examiner has chosen to combine these three references with the hindsight of the applicants specification. However, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Therefore, applicants respectfully assert that a *prima facie* case of obviousness has not been established and request that the rejection be withdrawn.

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Respectfully submitted,

KEIL & WEINKAUF



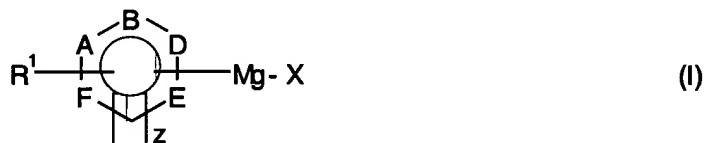
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VERSION WITH MARKINGS TO SHOW CHANGES MADE IN THE CLAIMS

Please amend the claim 1 as follows:

1.(amended) A process for preparing compounds of the general formula I



which comprises reacting compounds of the general formula II



with compounds of the formula R^4MgX (III) at temperatures below 05C,

where the substituents and variables in the formulae I, II and III have the following

meanings:

wherein Z [=] is 0 [,] or 1

wherein X [=] is halogen [,] or R^2

wherein X^a [=] is Br, I

wherein A, B, D and E

independently of one another are CH, CR^2 , N, P or CR^3

wherein F[=] is O, S, NR^6 , CR^2 or CR^3 when $z = 0$, or CH, CR^2 , N, P or CR^3 when $z =$

1,

[it being possible for] wherein two adjacent variables A, B, D, E or F together

optionally [to] form another substituted or unsubstituted aromatic, saturated or

partially saturated ring which has 5 to 8 atoms in the ring and which may contain

one or more heteroatoms such as O, N, S, P, and not more than three of the variables A, B, D, E or F being a heteroatom,

wherein $R^1[=]$ is COOR^2 , CN, $\text{CONR}^3\text{R}^{3'}$, or Halogen

wherein $R^2[=]$ is substituted or unsubstituted, branched or unbranched $\text{C}_1\text{-C}_{10}\text{-alkyl}$,

$\text{C}_3\text{-C}_{10}\text{-cycloalkyl}$, $\text{C}_1\text{-C}_4\text{-alkylaryl}$, $\text{C}_1\text{-C}_4\text{-alkylhetaryl}$, or R^5 ,

wherein $R^3[=]$ is hydrogen, substituted or unsubstituted, branched or unbranched

$-\text{OC}_1\text{-C}_{10}\text{-alkyl}$, $-\text{OC}_3\text{-C}_{10}\text{-cycloalkyl}$, $-\text{OC}_1\text{-C}_4\text{-alkylaryl}$, $-\text{OC}_1\text{-C}_4\text{-alkylhetaryl}$,

$\text{R}^{3'}$ or R^5 ,

wherein $R^3[=]$ is hydrogen, substituted or unsubstituted, branched or unbranched

$\text{C}_1\text{-C}_{10}\text{-alkyl}$, $\text{C}_3\text{-C}_{10}\text{-cycloalkyl}$, $\text{C}_1\text{-C}_4\text{-alkylaryl}$, $\text{C}_1\text{-C}_4\text{-alkylhetaryl}$, or R^5 ,

wherein $R^4[=]$ is substituted or unsubstituted, branched or unbranched $\text{C}_1\text{-C}_{10}\text{-alkyl}$,

$\text{C}_3\text{-C}_{10}\text{-cycloalkyl}$, $\text{C}_1\text{-C}_4\text{-alkylaryl}$, $\text{C}_1\text{-C}_4\text{-alkylhetaryl}$ or halogen,

wherein $\text{R}^5[=]$ is a solid support,

wherein $\text{R}^6[=]$ is substituted or unsubstituted, branched or unbranched $\text{C}_1\text{-C}_{10}\text{-alkyl}$,

$\text{C}_3\text{-C}_{10}\text{-cycloalkyl}$, $\text{C}_1\text{-C}_4\text{-alkylaryl}$, $\text{C}_1\text{-C}_4\text{-alkylhetaryl}$, substituted or

unsubstituted, branched or unbranched $-(\text{C}=\text{O})\text{-C}_1\text{-C}_{10}\text{-alkyl}$,

$-(\text{C}=\text{O})\text{-C}_3\text{-C}_{10}\text{-cycloalkyl}$, $-(\text{C}=\text{O})\text{-C}_1\text{-C}_4\text{-alkylaryl}$, $-(\text{C}=\text{O})\text{-C}_1\text{-C}_4\text{-alkylhetaryl}$

or $-\text{SO}_2\text{-aryl}$

wherein the process is carried out on a solid support (R^5).

Cancel Claim 5.

COPY OF ALL CLAIMS

1. A process for preparing compounds of the general formula I



which comprises reacting compounds of the general formula II



with compounds of the formula R^4MgX (III) at temperatures below 0°C ,

where the substituents and variables in the formulae I, II and III have the following

meanings:

wherein Z is 0 or 1

wherein X is halogen or R^2

wherein X^a is Br, or I

wherein A, B, D and E

independently of one another are CH, CR^2 , N, P or CR^3

wherein F is O, S, NR^6 , CR^2 or CR^3 when $z = 0$, or CH, CR^2 , N, P or CR^3 when $z = 1$,

wherein two adjacent variables A, B, D, E or F together optionally form another

substituted or unsubstituted aromatic, saturated or partially saturated ring which has

5 to 8 atoms in the ring and which may contain one or more heteroatoms such as O,

N, S, P, and not more than three of the variables A, B, D, E or F being a

heteroatom,

wherein R^1 is COOR^2 , CN , CONR^3R^3 , or Halogen

wherein R^2 is substituted or unsubstituted, branched or unbranched $\text{C}_1\text{-C}_{10}\text{-alkyl}$,
 $\text{C}_3\text{-C}_{10}\text{-cycloalkyl}$, $\text{C}_1\text{-C}_4\text{-alkylaryl}$, $\text{C}_1\text{-C}_4\text{-alkylhetaryl}$, or R^5 ,

wherein R^3 is hydrogen, substituted or unsubstituted, branched or unbranched
 $-\text{OC}_1\text{-C}_{10}\text{-alkyl}$, $-\text{OC}_3\text{-C}_{10}\text{-cycloalkyl}$, $-\text{OC}_1\text{-C}_4\text{-alkylaryl}$, $-\text{OC}_1\text{-C}_4\text{-alkylhetaryl}$,
 R^3 or R^5 ,

wherein R^3 is hydrogen, substituted or unsubstituted, branched or unbranched
 $\text{C}_1\text{-C}_{10}\text{-alkyl}$, $\text{C}_3\text{-C}_{10}\text{-cycloalkyl}$, $\text{C}_1\text{-C}_4\text{-alkylaryl}$, $\text{C}_1\text{-C}_4\text{-alkylhetaryl}$, or R^5 ,

wherein R^4 is substituted or unsubstituted, branched or unbranched $\text{C}_1\text{-C}_{10}\text{-alkyl}$,
 $\text{C}_3\text{-C}_{10}\text{-cycloalkyl}$, $\text{C}_1\text{-C}_4\text{-alkylaryl}$, $\text{C}_1\text{-C}_4\text{-alkylhetaryl}$ or halogen,

wherein R^5 is a solid support,

wherein R^6 is substituted or unsubstituted, branched or unbranched $\text{C}_1\text{-C}_{10}\text{-alkyl}$,
 $\text{C}_3\text{-C}_{10}\text{-cycloalkyl}$, $\text{C}_1\text{-C}_4\text{-alkylaryl}$, $\text{C}_1\text{-C}_4\text{-alkylhetaryl}$, substituted or
unsubstituted, branched or unbranched $-(\text{C}=\text{O})\text{-C}_1\text{-C}_{10}\text{-alkyl}$,
 $-(\text{C}=\text{O})\text{-C}_3\text{-C}_{10}\text{-cycloalkyl}$, $-(\text{C}=\text{O})\text{-C}_1\text{-C}_4\text{-alkylaryl}$, $-(\text{C}=\text{O})\text{-C}_1\text{-C}_4\text{-alkylhetaryl}$
or $-\text{SO}_2\text{-aryl}$

where the process is carried out on a solid support (R^5).

2. A process as claimed in claim 1, which is carried out in an inert aprotic solvent.
3. A process as claimed in claim 1, which is carried out at temperatures below -155°C .

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4. A process as claimed in claim 1, wherein the reaction to give compounds of the formula I as set forth in claim 1 is complete within 10 hours.